

FUTURE TRENDS

Japan faces a number of problems which if not addressed could lead to permanently slower growth -- not just a cyclical downturn. In the short-run, banking problems are expected to constrain domestic investment and growth. In the longer run, growth prospects will depend on the behavior of the yen, domestic savings, changes in the labor force, restructuring of the corporate sector, and government deregulation. The expected fall in Japan's saving rates and labor force means declining economic growth and major shifts in the composition of aggregate demand and industry structure. This section analyzes these problems and their impact on Japan's growth prospects, using a simulation model.¹ It then considers possible options for resolving these problems.

Changes in the saving rate and labor supply have important macroeconomic and microeconomic implications. At the macroeconomic level, the composition of aggregate demand and its sources of growth will be quite different in the next 20 years compared to the past twenty. Both private and government consumption will rise in importance, as the social welfare costs of an aging population increase. Investment and exports will fall. Japan's current account surplus will be sharply reduced, and perhaps eliminated, because of lower savings and the prospect of continued yen appreciation. Unemployment may also rise. The rate of change and the composition of unemployed will depend on how rapidly or slowly corporations adjust their employment policies from lifetime employment. At the microeconomic level, Japan's industrial structure can be expected to change, as the aging population changes its consumption patterns, and government shifts its spending towards social welfare payments. Investment is likely to flow increasingly to industries that serve the final consumer, particularly older consumers, and to non-tradeable goods. Moreover, construction of an infrastructure to accommodate an aging population will be needed. As the composition of demand changes, and with it, the industrial structure, so will the skill structure of the labor force.

SHORT-TERM PROBLEMS: BANKING

A major consequence of the financial bubble, especially of the collapsed real estate market, is a large volume of bad loans held by Japanese banks. The Ministry of Finance reported that total non-performing assets, including restructured loans, of all Japanese financial institutions stood at ¥34.8 trillion (\$329 billion) as of March 31, 1996. However,

¹ The MSG3 model is described in Warwick J. McKibbin and Jeffrey D. Sachs, *Global Linkages: Macroeconomic Interdependence and Cooperation in the World Economy* (Washington, D.C.: The Brookings Institution, 1991), and in the text box on page 32.

other estimates, using more stringent definitions of non-performing loans, are higher.² Some analysts also assert that banks have under-reported the amount of non-performing assets by shifting some of the bad loans to their subsidiaries.

Until recent years, bank failure had been exceptionally rare in Japan. However, since 1994, eight financial institutions, including a bank, have failed. Both Moody's and Standard and Poor's have downgraded their ratings of Japanese banks, leading to a rise in these banks' funding costs. Although the extent to which the huge volume of non-performing loans have constrained and distorted domestic investment is difficult to determine, the banking fiasco has undoubtedly contributed to the poor business climate during the last few years.

Japan's banking problem is slowly improving. Japanese banks have benefited significantly from low interest rates, higher stock prices, and improved economic growth. Using their strong operating profits, the 21 major banks wrote off a total of ¥10.4 trillion of their bad loans days before March 31, 1996, the end of the fiscal year. Although the amount of bad loans was reduced by only ¥2.4 trillion, the ratio of non-performing assets covered by loan-loss reserves rose to 47.3 percent from 26.6 percent six months ago. For the entire banking system, the ratio stood at 43.3 percent, up from 25.7 percent.

In spite of intense public opposition, the Japanese parliament gave final approval to the government's plan to liquidate bankrupt housing loan companies, or the *jusen*. The plan calls for contributions of ¥5,730 billion from banks and other institutions and ¥685 billion from the government. Modeled after the U.S. resolution Trust Corporation, the Housing Loan Administration Corporation was established in July 1996 to dispose of the collapsed *jusen*.

Resolving the problem of the housing loan companies, which accounts for the single largest bloc of non-performing bank loans, is essential to the resolution of the overall banking problem. Despite recent improvement, Japan's banking problem is far from over. While some of the stronger banks can probably finish writing off their bad loans in a year, the weaker ones will probably take years. In addition, if interest rates rise and stock prices decline, the agonizing process of resolving Japan's banking problem may be prolonged.

LONG-TERM PROBLEMS: DECLINING LABOR FORCE AND SAVING RATE

Japan's population is aging rapidly and -- according to demographic projections -- will continue to do so over the next three decades. Because life expectancy has risen dramatically

²There is disagreement over the amount of non-performing loans stemming from the lax banking disclosure requirement and the lenient definitions for non-performing assets in Japan. Japanese banks were not required to disclose their non-performing assets until 1993. Currently, the 21 major banks are required to disclose non-performing assets, defined as loans to bankrupt borrowers or loans on which interest payments have been in arrears for 6 months or more. Prior to March 31, 1996, they were not required to disclose restructured loans and under-performing assets -- loans with below market rates. Disclosure requirements for other financial institutions are even less stringent.

since the 1950s, while fertility rates have fallen, the dependency ratio (the population over age 65 as a percentage of the working age population (ages 15-64)) increased from 10 percent in 1970 to 18 percent in 1994 and an estimated 21 percent in 1995.³ Looking ahead, this ratio is projected to increase to 25 percent by 2010.⁴

The working age population (ages 15 to 64) began declining in 1995. And, demographic projections indicate a significant increase in the pace of decline over the next 20 years (Table 1).

The future growth of Japan's labor force depends not only on the trend in the working age population, but also on the extent that persons want to work. The labor force participation rate (LFPR) measures the percentage share of a given demographic group that is either employed or seeking employment. Table 1 shows that the LFPR is expected to rise at a much slower pace than before 1995, as the growth rates of the population and labor force become negative after 2005. For the working age population, the LFPR for Japanese males is assumed to be stable around 85 percent.⁵ A higher participation rate for females is assumed because a shortage of labor is likely to increase employment opportunities and incentives for them. The LFPR for the elderly population is assumed to remain at 25 percent to 2010.⁶ These assumptions are based on several factors:

- The population is expected to live longer with better health;
- The mandatory retirement age has been raised from 60 to 65; and,
- Income effects are determined by two offsetting impacts -- higher wages due to a reduced labor supply and higher taxes to pay for higher social security costs.

³*Japan Statistical Yearbook*, 1995, p. 46.

⁴Bureau of the Census, *World Population Profile, 1996* (Washington, D.C.: U.S. Department of Commerce, Bureau of Census, forthcoming).

⁵*Japan Statistical Yearbook*, 1995, pp. 82-83.

⁶Because the elderly population increases significantly in the years ahead, their contribution to the labor force must be taken into account. The LFPR for the elderly population (ages 65+) declined from 28 percent in 1975 to 24.3 percent in 1990, and rose slightly to 25 percent in 1995. While this rate could continue to fall over the longer-term, it might also increase if reforms reduce individuals' social security benefits, or other changes increase the incentive for the elderly to work.

Table 1
Japan: Labor Force Projections
(population and workers in millions; growth rates and participation rates in percent)

	1980	1985	1990	1995	2000	2005	2010
Population:							
Working age, male	38.9	41.0	43.1	43.7	43.3	42.4	40.8
Working age, female	39.9	42.9	43.4	43.4	42.9	41.9	40.2
Working age, total	78.8	82.5	85.9	87.1	86.2	84.3	81.1
Average annual rate of growth over previous 5 years (%)		0.9	0.8	0.3	-0.2	-0.4	-0.8
Elderly	10.6	12.5	14.9	18.0	21.3	24.2	27.1
Average annual rate of growth over previous 5 years (%)		3.4	3.6	3.9	3.4	2.6	2.3
Labor Force, Total (millions):	56.5	59.7	63.9	66.5	67.4	67.5	66.4
Working age, total	53.7	56.6	60.2	62.1	62.2	61.6	59.8
Elderly, total	2.8	3.0	3.6	4.4	5.2	5.9	6.6
Average annual rate of growth over previous 5 years (%)		1.1	1.4	0.8	0.3	0.0	-0.3
Labor Force Participation Rates:*							
Working age males	84.3	83.1	83.2	84.3	84.3	84.3	84.3
Working age females	52.4	54.3	57.1	58.2	59.9	61.6	63.2
Working age labor force, male and female	53.7	56.6	60.2	62.1	62.2	61.6	59.8
Elderly	26.3	24.3	24.3	25.0	25.0	25.0	25.0
Total labor force (%)	63.2	62.7	63.3	63.3	62.7	62.2	61.4

* Note: Labor force projections assume a gradually increasing LFPR for females from 58.2 percent in 1994 to 63.2 percent in 2010 and a constant LFPR of 25.0 percent for the elderly.

Source: Figures for 1980, 1985, and 1990 are from Japan Statistical Yearbook, 1995, p.46, p. 82 and Monthly Statistics of Japan, July 1995, p. 15. Population projections are from U.S. Census Bureau (June 1995).

In addition, Japanese labor is among the hardest working with one of the longest work weeks in the world. The work week has been falling significantly in recent years, as incomes have risen and demand for leisure has correspondingly gone up.⁷ The assumptions of a stable male LFPR and a modest increase in the female LFPR for the working-age population groups may -- if anything -- be somewhat on the high side and overstate prospects for growth of the input of labor over the next 15 years.⁸ This estimate may be optimistic because workers are retiring at an older age than before, the population is living longer and therefore continuing to work until an older age, and Japanese labor is enjoying more leisure as number of hours worked has fallen. Moreover, the life expectancy of the population is higher in Japan than in the rest of the world, and the LFPR for the elderly may be higher than the rest of the world.

Saving Rate Prospects

In the past, a high household saving rate, encouraged by government policies and favorable demographic trends, and combined with policies that encouraged the use of these savings in domestic investment, financed the high rates of investment that generated Japan's rapid capital growth. In addition, generally balanced government budgets kept the cost of these funds down. However, Japan's aging population is changing this pattern.

Studies of aggregate savings behavior, using alternative methodologies, indicate that Japan's aging population is expected to lead to a decline in the saving rate:

- Statistics from a 1990 government survey of households show that elderly Japanese households (retired and workers over 65 years old) dissaved an average 3.5 percent per year, because their incomes fell substantially with retirement. That is, overall, for every one percentage point increase in the elderly as a share of the working age population, the aggregate saving rate declines 0.2 percentage points.⁹
- The other approach, using simulation models, examines the effect of demographic trends on saving rates, taking into account the average behavior of households at different ages and changes in the age structure of households over time. Simulation studies estimate that Japan's household saving rate would decline between 0.2 and 0.8

⁷Guy Meredith, "Alternative Long-Run Scenarios," *Saving Behavior and the Asset Price "Bubble" in Japan*, Occasional Paper 124 (Washington, D.C.: International Monetary Fund), April 1995, pp. 46-50; Naohiro Yoshiro and Akiko Oishi, "Population Aging and the Saving-Investment Balance in Japan," paper prepared for the *National Bureau of Economic Research-Japan Center for Economic Research Joint Conference on the Economics of Aging*, September 14-16, 1993 (December 1993).

⁸Actual labor input--and actual GDP--will also depend on the percentage of the labor force that is employed--that is, the employment rate. This rate will vary with the business cycle. The effects of the business cycle can be set aside in a long-term analysis, however, because expansions and contractions tend to even out over time. The implicit assumption made in this analysis, therefore, is that the employment rate is constant. This means that the GDP projections presented below are really projections of potential GDP.

⁹Meredith, p. 38-39.

percentage points for every one percentage point increase in the ratio of elderly to the working age population.¹⁰

Econometric studies of different countries indicate similar declines -- on average the aggregate saving rate falls by 0.86 percentage point for every one percentage point increase in the elderly as a percentage of the working age population (elderly dependency ratio).¹¹ In addition, government dissaving is expected to rise as payments for social security outpace contributions to social security.

Japan's overall saving rate is expected to decline by about 5 percentage points of GDP by 2010 (Table 2), assuming a conservative 0.4 decline in the saving rates for every one percent increase in the ratio of elderly population, and using the U.S. Census Bureau projections of the elderly population as a share of the working age population. This decline reflects not only the tendency for the elderly population to save less, but also a fall in government saving as social security expenditures increase in the years ahead.

Table 2
Saving Rate Projections for Japan
(percent of GDP)

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>
Elderly dependency ratio (ages 65+/ages 15-64)	13.5	15.1	17.3	20.7	24.8	28.7	33.5
Gross saving/GDP (%)	31.2	31.7	34.0	32.6	31.0	29.4	27.5

Sources and Notes:

Data on elderly dependency ratios between 1980-1990, saving, and GDP from *Japan Statistical Yearbook, 1995*. Projections of elderly dependency ratios for 1995-2010 from Bureau of Census, *World Population Profile, 1996*, forthcoming.

Projections of gross saving rates based on saving rate elasticity with respect to elderly dependency ratio of 0.4.

¹⁰Households are assumed to consume and save so as to maximize utility over the life of the household subject to certain constraints, including income, taxes, social security benefits, and ultimately death. Household income consists of after tax labor income, interest income on accumulated assets, social security benefits, and inherited wealth. See Meredith, "Demographic Change and Household Saving in Japan," pp. 43-44.

¹¹Guy Meredith, "Demographic Change and Household Saving in Japan," *Saving Behavior and the Asset Price "Bubble" in Japan*, Occasional Paper 124 (Washington, D.C.: International Monetary Fund), April 1995, p. 37. For Japan, the analysis of Japanese aggregate data for 1966-83 concludes that the saving rate fell 0.34 percentage point for every 1 percentage point increase in the ratio of elderly to the working age population.

IMPACT OF DECLINING SAVING RATE AND LABOR SUPPLY

A decline in the Japanese saving rate and a fall in its labor supply have significant effects on the long-term prospects of the Japanese economy. To examine their effects, the MSG3 model is used to simulate the impacts of these developments on the Japanese and U.S. economies (see text box). In addition, the model is also used to examine how an increase in the growth of total factor productivity (TFP) could offset the negative impact of these two factors on Japanese growth (see Table 3 for summary of results of simulations).

MSG3 Model Simulations -- Overview

The MSG3 model can be described as a dynamic general equilibrium model of a multiregion world economy. There is a full internal macroeconomic structure, including both the demand and supply sides for the major industrial countries in the model (United States, Japan, Germany, and Canada), and explicit modeling of the trade and financial aspects of their external sectors. The MSG3 model also includes regional country blocs, including the remaining countries in the European Monetary System (REMS), and in the rest of the OECD, as well as blocs for the LDC's, OPEC, and Eastern Europe (including Russia). The MSG3 model is similar to computable general equilibrium (CGE) models insofar as it is based firmly on microeconomic foundations, and relies heavily on the assumption that consumers and producers maximize intertemporal objective functions. Demand equations for consumers represent a combination of intertemporal optimizing behavior and liquidity constrained behavior, while on the supply side, firms maximize intertemporal after-tax profits.

The model has a mix of Keynesian and classical properties, and solves for a full intertemporal equilibrium in which agents have rational expectations of all future variables. Asset markets clear immediately or "on impact", while product markets adjust more slowly. At the national level, stock-flow relationships change the composition and level of global wealth over time. National asset markets are "efficient" in the sense of being determined by a combination of intertemporal arbitrage conditions and rational expectations, and are linked globally through the high international mobility of capital. In the long-run, wealth adjustment between national economies determines stock equilibrium, but it also feeds back into short-run economic conditions via the asset markets for equities, bonds, and foreign exchange. As a consequence, exchange rates, interest rates, and prices are in continuous equilibrium, as they adjust immediately to clear markets in response to exogenous shocks.

The model is constrained by a number of accounting identities. For example, trade imbalances are financed by flows of assets. Net capital flows reflect the constraint that current account balances sum to zero for the world as a whole. The model is completed (or closed) by assigning market-clearing conditions for goods markets and asset markets. In the following simulations, empirical results are typically expressed as deviations from the "steady-state baseline" or stable adjustment path. For example, GDP, consumption, investment, and the current account balance are all reported as **deviations from baseline in percentage of potential GDP**. Other variables such as inflation, exchange rates, and interest rates are reported as **deviations in percentage points relative to the baseline**. A more detailed technical discussion of the simulations will appear as a supplementary paper.

The model is based on the Mundell-Fleming framework, modified to allow for dynamic effects of policies, price and wage dynamics, and the effect of future changes on expectations. The model is calibrated using techniques common with computable general equilibrium (CGE) models. See McKibbin, Warwick J., and Jeffrey D. Sachs, **Global Linkages**, (Washington, D.C., The Brookings Institution, 1991).

Table 3
Long-Run Effects of Four Japan Simulations, MSG3 Model
Percent Deviation from Baseline After 15 Years (1995-2010)
(Selected Variables for Japan and United States)

This table summarizes the results of simulations of the impact of a decline in Japan's saving rate, a fall in labor supply growth, and an increase in total factor productivity (TFP) growth. The results are discussed in text boxes.

Both the Saving Decline and Positive TFP simulations represent a 0.2 percent annual increase in the shock variable rising to 5.0 percent in 25 years, thereafter constant. The Labor Supply simulation is a negative 0.2 percent shock, rising to 5.0 percent in 25 years. The final simulation combines the three previous shocks.

	Saving Decline	Labor Supply Slowdown	Positive TFP Shock	3 Simulations Combined
Japan				
GDP	0.0	-2.0	3.1	1.1
Consumption	2.6	-1.1	1.6	3.2
Investment	-0.2	-0.3	0.4	-0.1
Current Account	-2.4	-0.6	0.9	-2.1
Inflation	0.0	0.1	-0.2	0.0
Nominal				
10-year interest rate	0.4	0.1	-0.1	0.4
Real interest rate	0.0	-0.1	0.2	0.1
Exchange rate	12.0	2.9	-4.4	10.5
United States				
GDP	- 0.3	-0.1	0.1	-0.2
Current Account	0.6	0.1	-0.2	0.5
Inflation	0.0	0.0	0.0	0.0
Nominal				
10-year interest rate	0.3	0.1	-0.1	0.3
Real interest rate	0.2	0.0	-0.1	0.2

Impact of Changes in Japanese Savings

Future declines in the Japanese saving rates have appreciable impacts on the outlook for the Japanese economy. The MSG3 simulation shows that a long-term decline in the Japanese saving rate leads to a steady rise in the real interest rate and an appreciation of the exchange rate (see text box: Simulation 1). Japan's current account surplus is likely to be sharply reduced, because of lower saving and continued yen appreciation. The deterioration in the current account is financed by a reduction in Japanese holdings of net foreign assets (including those in the United States). The composition of aggregate demand and its sources of growth can be expected to be

MSG3 Simulation 1: A Decline in Japan's Saving Rate

The saving rate in Japan is expected to decline gradually over the next few decades, largely in response to the aging of the Japanese population. The prospective long-run decline in Japan's saving rate was simulated in the MSG3 model as a gradual rise in personal consumption. Beginning in 1995, personal consumption was increased by an increment of 0.2% over the baseline each year until reaching 5%, and thereafter kept constant. Monetary policy remains "fixed," insofar as the growth rate of the money supply is held constant throughout the simulation, and in all subsequent simulations reported below.

Given the size of the Japanese economy, lower saving in Japan induces a fall in global saving and the global capital stock. In the long-run, this tends to increase global interest rates, reduce investment, and slow the growth of world GDP. Because of the assumption of rational expectations, and the perfect foresight properties of asset markets, both the real interest rate and exchange rate in Japan immediately react to the expected future fall in Japan's saving rate. Moreover, the real interest rate continues to rise and the exchange rate appreciates steadily over the course of the simulation. On balance, reduced saving in Japan acts to restrain investment globally, as the effects of the saving shock spread out over the world, placing upward pressure on foreign interest rates.

In the long-run, the positive effect on Japan's GDP from a rise in domestic consumption is slightly more than offset by two factors -- the negative effect on investment owing to the rise in the real interest rate, and the deterioration of the external sector. At the end of fifteen years, GDP is slightly above baseline. Although total private consumption is 2.6 percent of GDP above baseline, this positive effect is largely offset by a fall in investment of roughly 0.2 percent of GDP and a deterioration in the current account of 2.4 percent of GDP. At the end of fifteen years, the Japanese exchange rate has appreciated 12 percent above baseline, and the current account slowly deteriorates throughout the simulation.

Because of the rapid adjustment of assets markets, the near-term dynamics of the simulation are dominated by the negative effects from the rapidly appreciating yen. For the first 3 years of the simulation, the rise in consumption results in aggregate demand exceeding output at full employment, inducing an offsetting movement in the exchange rate. The exchange rate appreciates on impact, and jumps 5.8 percent above baseline in the first year. Thereafter, both the exchange rate and real interest rate in Japan rise steadily over the course of the simulation, reflecting the steady decline in Japan's saving rate. Inflation rapidly returns to the stable price baseline after only 4-5 years and remains there for the rest of the simulation. Japan's current account balance (inflation adjusted) slowly deteriorates, and is financed by a reduction in Japan's net holding of foreign assets

Reduced saving in Japan has both positive and negative effects on the U.S. economy, but the influences are relatively small. The short-run positive demand effects on U.S. exports from a rise in Japanese consumption are, however, largely muted in the MSG3 simulation for the following reasons. First, the decline in Japan's saving rate is phased in slowly over a period of twenty five years, rather than the total shock being concentrated in the first few years of the simulation. This pushes most of the positive demand effects into the future. Second, the combination of rational expectations and rapid price arbitrage in the bond and foreign exchange markets puts upward pressure on global real interest rates. Thus, in the early years of the simulation, the negative supply effects filter back through a rising real interest rate, while the positive demand effects on U.S. exports are small and dampened by the gradual phasing-in of the shock. On balance, the effects on the U.S. economy in this simulation are slightly negative from the beginning of the simulation.

In most macroeconomic models, positive demand effects tend to dominate in the short run, while negative supply effects (from the effect of rising interest rates on investment) dominate in the long-run. This is an empirical question. In the MSG3 simulation, there is a small but negative transmission to the U.S. economy from the beginning of the simulation onward. By the year 2010, U.S. GDP is about 0.3 percent below baseline. In this simulation, although the U.S. current account has improved by 0.6 percent of GDP in 2010, the rise in the U.S. 10 year nominal interest rate, and its negative effect on investment in the U.S., has mostly offset the increased export demand coming from Japan. This simulation highlights the partial dependency of the U.S. economy on foreign capital inflows, insofar as a saving shock outside the U.S. has negative effects on U.S. investment and GDP growth. Conversely, a higher domestic saving rate in the U.S. would tend to mitigate these negative spillover effects from a foreign saving shock.

quite different in the next twenty years compared to the past twenty. Both private and government consumption can be expected to rise in importance, as the social welfare costs of an aging population increase. Investment and exports fall although GDP growth in the long run remains relatively unchanged.

Effect of Decline in Labor Supply

The MSG3 model simulation shows that the projected decline in the labor supply growth has a negative impact on the economy. Output growth falls steadily over the next fifteen years (see text box: Simulation 2). The yen appreciates, consumption falls, interest rates rise, and investment declines. As the exchange rate rises, the trade and current account balances deteriorate, further reducing GDP growth. At the end of fifteen years, the results of the simulation are two percentage points decline in GDP growth, 1.1 percentage points fall in consumption, and a 0.2 percentage point decrease in investment. The impact on the U.S. economy is minimal.

MSG3 Simulation 2 : A Decline in Labor Supply Growth in Japan

The growth rate of Japan's labor supply is expected to decline gradually over the next few decades and eventually turn negative owing to demographic changes and the gradual aging of the working age birth cohort in Japan. In this simulation, the reduction in the growth rate of labor supply (not the level) consisted of a 0.2 percent reduction annually for 25 years, thereafter held constant. In Japan, the slow decline in labor supply growth represents a negative supply shock, inducing slow but steady declines in consumption, investment and GDP below baseline over the course of the simulation.

The long run impact of declining labor supply growth causes the real interest rate to rise modestly and the exchange rate in Japan to appreciate over the course of the simulation, leading to an appreciable deterioration in the current account. In this simulation, the slowdown in labor supply directly constrains output and pushes Japanese inflation up by about 0.1 percentage point after three years, thereafter holding roughly constant throughout the simulation. After fifteen years, GDP is 2 percent below baseline, while consumption is down by 1.1 percent of GDP and investment has fallen 0.3 percent of GDP.

The near-term dynamics of the simulation are dominated by the negative effects from the rising exchange rate which appreciates on impact. In the first three years, the gap between aggregate demand and (in this case) reduced aggregate output from the slowdown in labor supply, induces an offsetting appreciation of the exchange rate by about 1.8 percent, and a deterioration in the trade and current account balances. The slowdown in labor supply growth is a negative supply shock to GDP, which declines about 0.4 percent below baseline over the same period.

The spillover effects on the U.S. economy are negative, but rather modest. By the year 2010, U.S. GDP is about 0.1 percent below baseline. Investment and consumption combined are about 0.3 percent of GDP below baseline, which is partly offset by an improvement in the current account of about 0.1 percent of GDP. The nominal 10 year interest rate is about 7 basis points higher. Inflation is only negligibly higher.

CHALLENGES: RAISING PRODUCTIVITY

One approach in countering the impact of the two trends -- a reduced labor supply and a falling saving ratio -- on Japan's long-term GDP growth is to consider ways of raising its productivity, specifically, the growth rate of its total factor productivity. Past analyses of sources of growth in the Japanese economy indicate that total factor productivity growth in Japan has been falling and has been very low since around 1980 (Table 4).

Total factor productivity growth is the statistical residual equal to the increase in GDP that is not accounted for by increased inputs of labor and capital. Economists argue that it represents the net effects of a number of changes: on the positive side, the unmeasured quality of labor and capital; technological advances not contained in capital; improvements in the organization of economic activity; increased average educational attainment levels; and other sources of productivity growth that are not captured in the basic inputs of labor and capital; plus negative factors, such as oil shocks, wars, earthquakes, government regulations, and industry barriers in the real and financial markets.

Several factors have contributed to the decline in Japan's total factor productivity growth, but the relative importance of each is hard to determine:

- Past gains in total factor productivity growth that resulted from the rapid introduction of new equipment have declined in relative importance with the fall in the growth of capital stock.
- Advances in the average educational attainment and skill development of workers that had taken place during Japan's rapid economic growth period are likely to continue, but possibly at a slower pace.¹²
- Large gains in total factor productivity from imported technology have diminished as Japan has largely caught up with technology levels in the United States and elsewhere. Moreover, the pace of increases from independent advances in technology has fallen, further reducing potential gains in higher growth of total factor productivity.
- Government regulations, import restrictions, and industry practices have limited competition, are likely to constrain efficiency gains in a number of domestic markets.

¹²The *Japan Statistical Yearbook*, 1995 (p. 52) and 1975 (p. 564) shows that between 1965 and 1990, the proportion of the working age population with at least a high school education increased from 27.4 percent to 59.6 percent. See Kuzuo Koike, "Human Resource Development Labor-Management Relations," in *The Political Economy of Japan, Vol. 1, The Domestic Economy*, edited by Kozo Yamamura and Yasakichi Yasuba (Stanford: Stanford University Press, 1987, pp. 289-330, for a discussion of corporate policies of worker skill development.

Among these factors, Japan can probably more readily change its regulatory and corporate environments. Without these kinds of changes, growth of Japan's TFP can be expected to remain at or near zero.

Table 4
Estimates of Average Annual Total Factor Productivity (TFP) Growth Rates for Japan
(percent)

<u>Author</u>	<u>Source</u>	<u>Time Period</u>	<u>TFP Growth</u>
John C. Dougherty	<i>Comparison of Productivity and Economic Growth in G-7 Countries</i> , Ph.D. Thesis, Harvard Univ., 1991	1960-89	2.0
Dale W. Jorgenson & Masahiro Kuroda	"Productivity and International Competitiveness in Japan & the United States," <i>Economic Studies Quarterly</i> , December 1992	1960-65	3.3
		1965-70	5.0
		1970-73	2.1
		1973-75	-5.1
		1975-80	1.1
		1980-85	0.0
		1960-85	1.6
		1970-85	0.0
Japan Center for Economic Research	<i>Japan's Economy in the Year 2020</i> , February 1995	1980-90	1.2
		1990-94	-1.1
		1980-94	0.1

Impact of an Increase in TFP and a Decline in Savings and Labor Supply

Rising Japanese productivity offsets substantially the negative effects of reduced domestic savings and labor supply. A simulation, using the MSG3 model, shows the empirical relationship between changes in labor force growth and TFP changes. Productivity moves inversely with labor input. Assuming an annual increment of 0.2 percent in total factor productivity, at the end of fifteen years, real GDP is 3.1 percent higher; consumption, 1.6 percent higher; and investment, 0.4 percent higher than otherwise. In addition, with a fixed money supply, the inflation rate falls permanently, by about 0.2 percentage points. Lower inflation and greater availability of Japanese goods for exports improve its trade and current accounts, leading to increased capital outflows and a depreciating yen. Japanese saving rises as productivity and economic growth improve, leading to further capital outflows (see text

box: Simulation 3). The long-run impact on the U.S. GDP, investment, and consumption is small, but positive.

A simulation combining the three shocks (see text box: Simulation 4) shows that an 0.2 percent annual increase in TFP largely offsets the impact of a reduced labor force and falling saving rate, as the population ages. Rising total factor productivity has the long-run effect of increasing real GDP growth by about 1.0 percent, keeping domestic prices stable, and partly offsetting the deterioration in the trade and current accounts. The falling saving rate, due to an aging population, leads to an inflow of assets from abroad and an appreciation of the yen. The trade and current accounts deteriorate as a result. In the long-run, these changes in the Japanese economy slightly lower the U.S. GDP, consumption, and investment growth.

MSG3 Simulation 4 : A Combination of the 3 previous shocks -- Decline in Saving Rate, Decline in Labor Supply Growth, and Rising TFP

This simulation combines the two negative supply shocks (saving rate decline and labor supply slowdown) with the positive supply shock from the assumption of a rising rate of technical change (TFP), in order to provide an empirical estimate of the magnitude of their combined influence on the Japanese economy. The negative supply shock from the decline in the saving rate represents the largest influence on Japanese economy of the three shocks, and the movement of major economic variates in this simulation mirrors those in simulation #1 reported above. Nevertheless, there are some important quantitative differences in the resulting path of GDP and inflation, owing to the countervailing influences of the two negative supply shocks and the positive TFP shock.

Combining all three shocks largely offsets the negative effects on GDP and inflation from the slowdown in labor supply. In this simulation, the rise in TFP more than counteracts the negative influence on output from the slowdown in labor supply growth, and the long run effect on GDP is somewhat positive. GDP rises about 0.4 percent above baseline by the fifth year, thereafter rising slowly to 1.1 percent above baseline after fifteen years. By the year 2010, Japan's current account balance (inflation adjusted) has fallen by 2.1 percentage points of GDP, and the exchange rate has appreciated by 10.5 percentage points.

The positive supply shock from TFP also largely offsets the modest negative inflationary effects from the decline in labor supply growth. In the present simulation, there is a mild deflationary effect throughout the simulation. Japan's exchange rate appreciates and its current account deteriorates, with only a small change in the magnitudes seen in simulation #1. The exchange rate appreciates 5.4 percentage points in the first two years, and continues appreciating to 10.5 percentage points above baseline after fifteen years. The current account deteriorates slowly and steadily to 2.1 percent of GDP after fifteen years.

The near-term dynamics are similar to the saving shock simulation. Aggregate demand exceeds output, inducing an offsetting appreciation of the exchange rate, and an initial fall in the real interest rate for the first two years. Thereafter, the exchange rate continues to appreciate and the real interest rate rises steadily through the simulation, as the current account balance deteriorates.

The long-run spillover effects on the U.S. economy are mildly negative, although less so than in the first two simulations. By the year 2010, U.S. GDP is 0.2 percent below baseline. Investment and consumption combined are about 0.8 percent of GDP below baseline, and are partly offset by an improvement in the U.S. current account of about 0.5 percent of GDP. The U.S. nominal 10 year interest rate is about 30 basis points higher. Inflation is only negligibly higher.

SOURCES OF FUTURE PRODUCTIVITY GROWTH

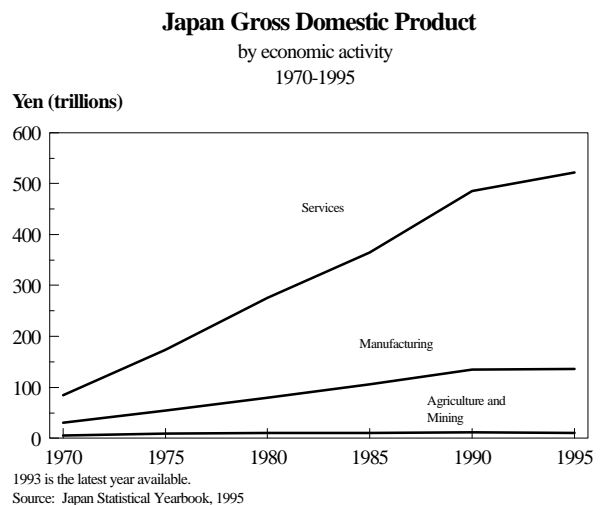
This section examines data on productivity growth in Japanese industries to determine where productivity gains might be made. It compares Japanese and U.S. productivity growth rates in these industries to gauge the potential for raising productivity growth in sectors where trade liberalization, deregulation, and changes in corporate governance could influence firms' efficiency and, therefore, economic growth.

The economy's recent weakness has led some of the government's economic leaders and agencies to push for faster deregulation and a process by which the Japanese economy moves toward becoming less bureaucratic, more open, and thus more competitive. The Economic Planning Agency (EPA) released a white paper on July 25, 1995, on the economy's prospects, and concluded that low productivity in regulated industries is becoming a significant drag on the competitiveness of Japan's highly efficient exporting industries. The paper called for deregulation and the weeding out of weak firms, even though short-term costs in terms of increased unemployment will result. In July, 1996, the EPA issued a radical deregulation plan, calling for lifting government controls in: computers and telecommunications; distribution, finance; housing and property development, employment; medical care; and welfare.

Industry Productivity Growth

The structure of the Japanese economy has been changing, as are other industrial economies, with the shares of agricultural and manufacturing production declining and that of services rising. Moreover, direct investments overseas have led to the rapid shift from domestic production to production in overseas markets. The high yen has accelerated this process, and its negative impact has been especially hard on the traded goods sectors of the economy in the recent recession.

Data on productivity growth of individual Japanese industries point to sectors in which improvements might be gained. Among the individual industries, the trends in productivity growth vary widely, and, for many of them, differ from the overall trend in the national average (see Table 5).¹³ Moreover, the data indicate a link between higher productivity growth and international competitiveness. Table 5 compares productivity growth in individual industries between the periods 1965-1975 and 1975-1985 (the latest data available). It shows that industries with the most improvement in productivity growth are mainly those that are known to be highly competitive in world markets, that have free and open domestic competition, and/or that face fewer government regulations. These industries include electronic machinery (consumer electronics, computers, and semiconductors), precision instruments, and motor vehicles. Many of these industries, nonetheless, have been protected from foreign competition in the



¹³Total factor productivity estimates are from Dale W. Jorgenson, Harvard University, and Masahiro Kuroda, Keio University.

domestic market. On the other hand, a number of industries show significantly worsening productivity growth rates. Many of these industries have been highly regulated, as well as protected from external competition, including the agriculture, services, construction, and petroleum refining and coal industries.

While Japan has achieved high rates of growth through high rates of productivity growth and high input growth,¹⁴ its long-term prospects are limited, many believe, unless it deregulates its industries and liberalizes trade. Comparisons with other countries' productivity growth indicate the extent to which regulations and trade restrictions may limit growth. The United States represents a relatively unregulated and open market, compared to Japan. Productivity growth in U.S. industries provides a way of gauging what productivity gains Japanese industries might achieve through deregulation and trade liberalization (Table 6). A comparison of productivity growth in Japanese versus U.S. industries between the 1965-75 and the 1975-85 periods shows that among the non-traded goods sectors,¹⁵ Japanese productivity lagged significantly behind U.S. productivity growth in industries such as transportation and communication services (0.275), agriculture (0.268), and petroleum refining and coal (0.268) which are highly protected and/or regulated.¹⁶

One study examining differences in labor productivity growth among selected Japanese industries, using more recent data, also suggests that gains could be achieved through trade liberalization, deregulation, and corporate restructuring. It shows that in several non-traded sectors, productivity in Japan has lagged that in the United States, Germany, the U.K., and France, and attributes this lag largely to management behavior which has responded to incentives and constraints from government regulations and policies, the most important being Japan's competition policies.¹⁷

¹⁴See Paul Krugman, "The Myth of Asia's Miracle," *Foreign Affairs*, (November-December 1994), pp. 62-76.

¹⁵The Japanese electrical machinery, lumber, and chemicals industries had higher productivity growth than U.S. industries between these two periods, 1973-75 and 1983-85.

¹⁶These generalizations, of course, do not hold for all industries. For example, it is not clear why Japanese mining, miscellaneous manufacturing, lumber, and utilities show so much higher productivity than U.S. industries. Moreover, what is included in miscellaneous manufacturing is not known.

¹⁷McKinsey Global Institute, *Manufacturing Productivity and Service Sector Productivity* (Washington, D.C.: McKinsey & Company, Inc., October 1993 and October 1992).

Table 5
Japanese Average Annual Total Factor Productivity Growth Rates in 1965-75 and 1975-85,
and Change between Periods
(In percentage points of growth)

Industries	Average growth rate		Change
	1965-75	1975-85	
Electrical machinery	0.966	1.401	0.436
Precision Instruments	0.982	1.269	0.287
Fabricated textiles, apparel	1.056	1.298	0.241
Finance	1.073	1.274	0.202
Motor vehicles	0.940	1.096	0.155
Lumber	0.958	1.107	0.149
Trade (wholesale and retail)	0.970	1.116	0.146
Real Estate	0.885	1.031	0.145
Textiles	1.026	1.165	0.139
Mining	0.976	1.106	0.131
Chemicals	0.949	1.076	0.127
Transportation & Communication Services	0.984	1.100	0.116
Machinery	0.925	1.028	0.104
Nonferrous metals	1.029	1.123	0.095
Miscellaneous manufacturing	1.002	1.056	0.054
Fabricated metals	0.938	0.974	0.036
Iron & Steel	0.954	0.990	0.036
Transportation equipment	0.881	0.911	0.031
Leather	1.002	1.018	0.016
Furniture	0.982	0.997	0.015
Foods	0.986	1.000	0.013
Paper	0.960	0.936	-0.024
Rubber	1.062	1.033	-0.029
Stone & clay	0.953	0.907	-0.046
Construction	0.950	0.893	-0.057
Government services	0.973	0.896	-0.077
Utilities	0.923	0.843	-0.080
Services	0.966	0.848	-0.118
Agriculture	1.041	0.887	-0.155
Printing	0.898	0.725	-0.174
Petroleum refining & coal	0.928	0.577	-0.352

Note: The percentage point change is the difference in average annual growth rates in total factor productivity between 1965-1975 and 1975-1985. 1985 is the latest year for which data are available.

Source: Dale W. Jorgenson, Harvard University and Masachiro Kuroda, Keio University.

Table 6
Japanese and U.S. Average Annual Productivity Growth Rates in 1965-75 and 1975-85,
Change between Periods, and Difference between Japan and U.S. Change
(In percentage change in growth)

Industries	Japan			United States			Japan minus U.S. change
	Average growth rate			Average growth rate			
	1965-75	1975-85	Change	1965-75	1975-85	Change	
Mining	1.239	1.408	1.136	0.970	0.655	0.676	0.461
Miscellaneous manufacturing ..	0.920	0.984	1.070	0.949	0.703	0.741	0.329
Electrical machinery	0.918	1.321	1.439	1.020	1.212	1.189	0.251
Chemicals	0.952	1.109	1.165	0.995	0.943	0.947	0.218
Lumber	0.747	0.880	1.179	0.958	0.949	0.991	0.188
Utilities	0.854	0.785	0.920	0.971	0.720	0.741	0.178
Precision instruments	0.792	1.023	1.291	1.031	1.154	1.119	0.172
Finance	0.446	0.527	1.181	1.004	1.020	1.016	0.165
Motor vehicles	0.950	1.060	1.116	1.034	1.043	1.008	0.107
Trade	0.768	0.891	1.160	1.024	1.083	1.057	0.103
Transportation equipment	0.539	0.560	1.039	0.987	0.946	0.959	0.080
Fabricated textiles, apparel	0.717	0.884	1.232	1.017	1.178	1.158	0.073
Primary metals	0.915	0.985	1.076	1.024	1.043	1.018	0.058
Construction	0.517	0.499	0.966	1.005	0.919	0.915	0.051
Textiles	0.859	0.992	1.154	0.971	1.082	1.115	0.039
Fabricated metals	0.710	0.743	1.047	1.015	1.036	1.020	0.027
Leather	0.810	0.823	1.016	0.994	0.985	0.991	0.026
Foods	0.807	0.829	1.027	0.987	1.014	1.027	0.000
Paper	0.978	1.001	1.023	1.012	1.036	1.023	-0.000
Furniture	0.879	0.908	1.034	1.031	1.107	1.073	-0.039
Machinery	0.889	0.972	1.093	1.013	1.157	1.142	-0.049
Rubber	0.590	0.582	0.988	0.988	1.028	1.040	-0.052
Stone & clay	0.789	0.751	0.952	1.020	1.034	1.013	-0.061
Services	0.673	0.606	0.900	1.016	1.028	1.012	-0.112
Printing	0.591	0.506	0.857	1.034	1.008	0.975	-0.119
Government services	1.034	0.957	0.925	1.022	1.129	1.106	-0.181
Agriculture	0.958	0.821	0.857	0.997	1.122	1.125	-0.268
Petroleum refining & coal	0.635	0.398	0.626	0.936	0.837	0.894	-0.268
Transportation & communication services	1.071	1.203	1.124	1.014	1.418	1.399	-0.275

Note: The difference is in terms of the change in average productivity growth for Japanese industry minus that for U.S. industry

Source: Dale W. Jorgenson, Harvard University and Masahiro Kuroda, Keio University.

U.S.-JAPAN SEMICONDUCTOR AGREEMENTS

The 1991 U.S.-Japan Semiconductor Arrangement replaced the 1986 arrangement which had proved to be insufficient. The objective of the arrangement is to increase foreign semiconductor suppliers' access to the Japanese market and to deter dumping by Japanese semiconductor producers in the U.S. market. It calls for market share of foreign producers of 20 percent or more by the end of 1992. In 1995 and 1996, the United States sought greater market access by increasing foreign participation in supplying major industry users of semiconductors, such as autos, telecommunications, and electronic games, increasing the number of quality design-ins of foreign semiconductors in key Japanese end-products, and increasing usage of foreign semiconductors by small- and medium-sized firms.

Market access has improved under this arrangement. The foreign market share averaged 16.7 percent in 1992, 19.4 percent in 1993, 22.4 percent in 1994, and 25.4 percent in 1995. It rose from 29.5 percent in fourth quarter 1995 to 30.6 percent in the first quarter 1996. Improved relations between U.S. industry and the Japanese industry have opened market opportunities for U.S. producers and provided better products and service for Japanese users. Nonetheless, U.S. officials believe that the foreign share in the Japanese market is low when compared to other markets. In 1995, Japanese firms held 78 percent of the Japanese market and 24 percent of the world market outside of Japan, while the foreign share in the United States, currently the world's leading producer of semiconductors, was 40 percent¹

The United States sought to renew the 1991 agreement, which expired on July 31, 1996. This agreement was replaced on August 2, 1996, with an accord that greatly reduces the government role. The accord: establishes a council of industry organizations from Japan and the United States to collect data on the semiconductor sectors--not just in Japan but also in global markets--for their governments; creates a global government forum to discuss semiconductor issues, including tariffs, taxation, and environmental rules; and provides for annual meetings of the two governments to review trade and industry data.

¹1996 *National Estimate Report on Foreign Trade Barriers*, Office of the United States Trade Representative, Washington, D.C., pp. 209-210; Testimony of Ambassador Ira Shapiro before the House Ways and Means Committee, Subcommittee on Trade, March 28, 1996; "U.S. Trade Policy with Japan: Assessing the Record, An Update," Council of Economic Advisers and U.S. Treasury Department, April 10, 1996; "Foreign Share of Japan's Semiconductor Market Tops 30 Percent," Press Release, Office of the United States Trade Representative, Washington, D.C., June 17, 1996.

The importance of increasing competition and opening up Japanese markets is shown in a recent study that examines the impact of changes in the yen exchange rate on traded versus non-traded sectors. This analysis indicates that yen appreciation had a negligible impact on the operations of non-exporting industries, such as food processing, construction, and wholesaling and retailing -- industries that tend to be inefficient, have low productivity, and are protected from external competition. On the other hand, the rising yen had a significant, negative effect on the operations of exporting industries. Japanese exporting industries have had to improve efficiency in the face of strong competition in foreign markets, and many have responded by moving production abroad to reduce costs.¹⁸

¹⁸Robert Dekle, "The Yen Appreciation and Japanese Deindustrialization," Division of International Finance, Board of Governors of the Federal Reserve System, draft, July 1995.

U.S.-JAPAN AGREEMENTS ON AUTOS AND AUTO PARTS

The Japanese market for autos and auto parts has had many significant barriers to U.S. and other foreign exports. This market accounts for a major share of the U.S. trade deficit with Japan.

The U.S. and Japanese governments have been working since 1986 to improve market access for foreign auto and parts suppliers under the Market-Oriented-Sector-Selective (MOSS) Talks. These talks several agreements:

- In 1987, Japan agreed to track Japanese vehicle makers purchases from U.S. parts firms both in Japan and in the United States; facilitate sales contacts for U.S. producers by cooperating on seminars and trade shows; expand imports of foreign parts and increase local sourcing by affiliates in the United States; and reduce foreign parts restrictions in Japan's inspection system.
- In 1990, they agreed to a Market-Oriented Cooperation Plan to develop long-term business relations between Japanese auto producers and U.S. parts producers.
- In 1992, Japanese producers announced voluntary plans to increase purchases of U.S. auto parts from \$9 billion to \$19 billion by FY 1994 -- \$15 billion for use by Japanese-owned plants in the United States and \$4 billion for use in Japan.

In August 1995, they agreed to improve U.S. manufacturers access to auto dealer networks in Japan and to encourage purchases of U.S. auto parts and components, by: helping to develop distribution channels for aftermarket parts in Japan; relaxing requirements on certified garages; eliminating standards and certification barriers; and giving U.S. and foreign producers access to data registration information to analyze the customer base and expand marketing efforts. Japanese producers also agreed to increase parts and components production in the U.S. and local content of their autos made in the U.S.

In addition, the Japanese Ministry of Transportation (MOT) began deregulating the auto parts aftermarket by eliminating many restrictions on modification of vehicles. It is also undertaking an analysis of deregulating other aspects of the market, and is considering opening the Japanese garage system for repairs and inspection to independent participation and supporting extensive trade promotion programs to improve imports including financing.¹ The results have so far been positive. U.S. exports to Japan of autos and parts are up 21 percent in 1996 (January to May) from 1995, and imports, down 19.7 percent. Between 1992 and 1995, exports rose 158 percent, while imports increased only 13 percent.

¹1996 *National Estimate Report on Foreign Trade Barriers*, Office of United States Trade Representative, Washington, D.C., pp. 199-201.

Opening up Japanese markets to foreign competition and reducing non-tariff barriers have been the focus of U.S. trade negotiations over the past two decades. U.S. market-opening trade initiatives benefit not only U.S. producers, but also Japanese firms and consumers. These negotiations, particularly the Market-Oriented-Sector-Selective (MOSS) talks beginning in 1986, have highlighted the fact that non-tariff barriers -- regulations and structural impediments to competition -- have limited access to the Japanese market. While

U.S. trade negotiations have helped to improve access to several sectors of the Japanese economy (see boxes on the U.S.-Japan trade agreements on the auto and auto parts industry and the semiconductor industry), external pressures cannot by themselves eliminate the internal structural barriers to competition and increased efficiency. Japan increasingly recognizes the limitations that these barriers place on its growth prospects, and is now beginning to address these problems, with deregulation and trade liberalization in previously protected sectors.

Sectors lagging in productivity growth include the retail sector in which Japan's Large Scale Retail Store Law restricted productivity increases by effectively preventing consolidation, protecting the existence of large numbers of small stores, and maintaining resale price and price discrimination. Japanese total factor productivity in the retail sector is the lowest of five countries in 1987 when compared to U.S. productivity levels: U.S. is 100 percent; Germany is 96.8 percent; the U.K., 85.6 percent; France, 71.4 percent; and Japan, 54.7 percent. With the recent liberalization of the law in 1994, productivity gains are expected in Japan. Similarly, in the beer and processed food industries, Japan's significantly lags other countries. In addition, direct distribution consistently protected the weakest breweries from competition. In addition, direct distribution to hundreds of retailers requires more labor in the Japanese beer industry than in the United States. Japan's processed food industry mostly serves the Japanese market, and is highly protected from foreign competition by tariffs, quotas, content restrictions, and quarantines. Its complex distribution system discourages newcomers, while requirements that government agencies be the sole purchasing agents of a number of food products limits domestic price competition.¹⁹ In fact, labor productivity in the food processing industry dropped by 11.6 percent between 1982 and 1992 while it rose in the United States by 3.5 percent.²⁰

Productivity growth in the telecommunications services industry indicates the importance of government deregulation. The United States and Japan have been deregulating their respective telecommunications industries more rapidly than other major industrial countries. Japan began deregulating its industry in 1985, following the United States' breakup of AT&T in 1984. In 1989, Japanese total factor productivity in this industry (77 percent) still lagged the United States (set at 100 percent), but compared favorably to that of Germany (52 percent), France (62 percent), and the U.K. (54 percent). In Japan, privatization of NTT (Nippon Telegraph and Telephone) has reduced excess workers and increased productivity.²¹ Nonetheless, it should be pointed out that in both Japan and the United States, despite moves

¹⁹McKinsey Global Institute, *Service Sector Productivity*.

²⁰Doms, *et. al.*, July 1995.

²¹Tsuruhiko Nambu, "Competition and Regulation of Japanese Telecommunications Industry," *International Comparison of Privatization and Deregulation: The Case of Japan*, (Tokyo, Japan: Economic Research Institute, Economic Planning Agency), August 1995, pp. 3-38.

to deregulate and privatize, this industry remains one of the most highly regulated worldwide.²²

CHANGE AND GROWTH

To improve its growth prospects, both Japanese and Western economists have argued that Japan needs to make major structural changes; specifically, it must take significant steps in two major areas -- deregulation and corporate restructuring. The historically high yen exchange rate makes these structural changes even more imperative.

Many industries in Japan are subject to extensive government regulations, with highly regulated industries accounting for an estimated 40 percent of Japan's GDP, according to Japan's Economic Planning Agency.²³ Most of these industries are in the agricultural and services sectors, although some, such as oil refining, are in manufacturing.

These regulations have limited the growth of output and employment in these industries and have tended to keep prices (producer and distributor) higher than would be otherwise. Assessments of these regulations indicate their negative impact on the Japanese economy. A recent study that focused on Japan's non-tariff import barriers -- including government inspection requirements and procurement policies -- concludes that such measures cost Japanese consumers and industrial purchasers about \$100 billion per year.²⁴ These higher costs have a corresponding restrictive impact on output and sales.

Other studies highlight the need to reduce regulations and the need for structural reforms, especially in service industries. The Economic Planning Agency's FY 1996-2000 Economic Plan forecasts real GDP growth rate and unemployment rate to be 3.0 percent and 2.75 percent a year, respectively, with deregulation and structural reforms. But, without these changes, real GDP growth is expected to be an average of 1.75 percent per year and unemployment rate, 3.75 percent.²⁵ Other analyses also indicate the degree that regulations restrict growth, showing that deregulation and structural reforms would improve average annual real GDP growth.²⁶

²²McKinsey Global Institute, October 1992.

²³Toshimasa Tsuruta, "End of the Road for a Regulatory Tradition," *Economic Eye*, Autumn 1994, p. 17.

²⁴Yoko Sazanami, Shujiro Urata, and Hiroki Kawai, *Measuring the Cost of Protection In Japan*, (Washington, D.C.: Institute for International Economics, 1995), p. 43.

²⁵Economic Council, Economic Planning Agency, "Social and Economic Plan for Structural Reforms: Towards a Vital Economy and Secure Life," Draft Summary of New Economic Plan, November 29, 1995.

²⁶As reported in *Tokyo Kyodo*, "Keidanren Calculates Effects of Structural Reforms," October 17, 1995; "Panel Forecasts National Workforce to peak in 2000," June 5, 1995; and *Yomiuri*, "Deregulation Would Drive up Growth Rate to 3.1 Percent on Average by Year 2000: Simulation by Mitsubishi Research Institute," December 20, 1994.

	<u>With deregulation</u>	<u>Without deregulation</u>
Keidanren (to 2010)	3.0%	1.0%
Ministry of Labor (to 2010)	3.0%	2.4%
Mitsubishi (to 2000)	3.1%	2.6%

The increased output and sales produced by deregulation would improve labor productivity and real GDP growth.

All studies predict increases in jobs in the information and service industries, but reductions in the manufacturing sector. The Economic Planning Agency forecasts an increase of 4.35 million jobs in the service sectors and a decrease of 3.5 million workers in manufacturing. Similarly, the Keidanren estimates a net gain of 0.74 million jobs between 1995 and 2000 with the composition of jobs shifting -- 2.84 million workers would lose their jobs but 3.58 million new jobs would be created.

A study by the Interindustry Economic Research Fund (INFORUM located at the University of Maryland)²⁷ shows that Japan would induce additional growth with deregulation and reforms. The analysis is based on a one-hundred sector input-output model of Japan projected to the year 2005 for scenarios that assume three alternative levels of regulations:

- Status Quo, no changes are made in regulations;
- Targeted Deregulation where regulations to protect small inefficient business in wholesale, retail, transportation, and communications sectors are lifted, but other regulations remain in place;²⁸

²⁷INFORUM, University of Maryland, "Scenarios for Japan's Economic Future, 1994 to 2005," January 1994.

²⁸The assumption under this scenario is that the price gap (for manufacturing industries) or productivity gap (for service industries) between Japan and the United States is reduced by 50 percent.

- Economic Harmonization, where regulations of wholesale, retail, transportation, communications sectors are lifted, antimonopoly laws are enforced, and *keiretsu* supply chains are opened up for foreign goods.²⁹

The analysis shows that the degree of added economic growth corresponds with the extent that regulations are lifted. Under status quo - no change - average real GNP growth between 1994 and 2005 is less than the average for 1984-1993, and Japan continues to have a trade surplus, although the trade balance as a share of GNP falls to one percent (the average for the 1960s and 1970s). With targeted deregulation, GNP growth gets a small boost, increasing at an average rate of 0.5 percent each year above status quo. Also, the trade surplus declines steadily, and reaches the 1985 level by the year 2005. Under economic harmonization, GNP growth rises to the level of the previous decade, adding an average of one percentage point to annual GNP growth. The trade surplus falls by much more than the two other scenarios, becoming a small trade deficit by 2005. Employment under targeted deregulation changes little, but under economic harmonization, 200,000 jobs are gained by 2005.

INFORUM also finds that U.S. GNP rises slightly by 2005 with deregulation and economic reform in Japan: 0.09 percent increase under targeted deregulation and 0.7 percent under economic harmonization. U.S. exports are boosted by 0.47 percent for targeted deregulation, and 3.2 percent under economic harmonization. The U.S. bilateral trade balance improves slightly under targeted deregulation, and the trade deficit is almost halved under economic harmonization, with the reduction in the balance for consumer goods and high-technology products.

It is interesting to contrast these estimates with an *ex post* analysis of the impact of deregulations in the United States. Regulated industries in the United States, estimated to account for 17 percent of GDP in 1977, declined to 6.6 percent by 1988 because of deregulation. Conservative estimates of gains from regulatory reform in the United States range from \$36-\$46 billion (1990 dollars), or about 0.5 percent improvement in GNP; consumers, labor, and producers have all benefitted.³⁰

Deregulation

The regulatory role of government is being reviewed in light of the changes taking place in Japan -- its prolonged low growth, yen appreciation, and rising competitive

²⁹The assumption under this scenario is that the price and productivity gaps are closed between Japan and the United States by 100 percent.

³⁰Clifford Winston, "Economic Deregulation: Days of Reckoning for Microeconomists" *Journal of Economic Literature*, Vol. XXXI (September 1993), pp. 1263-1289.

challenges of newly industrializing countries, and increased mobility of labor.³¹ Many observers of the Japanese economy agree that widespread deregulation is necessary in order to encourage start-ups of new enterprises, restructuring of corporations, raise returns on domestic investment, and thereby increase TFP growth. These analysts add that steps should be taken to increase competition in a number of domestic markets. Fewer restrictions on imports, for example, would significantly increase competition. At the same time, most analysts also agree that substantial deregulation is likely to occur slowly only over a long period of time.

This section examines areas where regulations appear to be particularly important; that is, where changes in regulations could significantly improve the productivity and growth potential of the Japanese economy. These areas include real estate and land use; the retail and distribution system; and the financial system. Deregulation and privatization of other industries -- telecommunications, airlines, trucking, electricity -- in the United States, the United Kingdom, and Japan have been examined and compared to identify major differences and future policy directions for Japan in these industries.³²

Real Estate and Land Use. Real estate prices, especially housing prices, in Japan are exceptionally high. The 1979 average price of Japanese residential land at ¥44,800 per square meter was 5 times greater than in West Germany and 16 times higher than in the United States.³³ Between 1960 and 1991 the cost of housing increased 700 percent, second only to the cost of education. In fact, from 1980-1991, the cost of overall urban residential land prices increased four times faster than the rise in consumer prices, while residential land prices in the six largest Japanese cities went up ten times faster.³⁴

The lack of buildable land in Japan has kept prices high, but government regulations, real estate taxes, and industry practices have pushed real estate prices higher than most other costs. Government regulations range from construction rules that limit total floor space, use of underground spaces, and building heights, restrictive standards on plumbing fixtures, to local authorities designating which companies can perform electrical, gas, and water connections.³⁵

³¹Akira Furukawa, *et al*, "Comparison of privatization and Deregulation in the U.S.A., the U.K., and Japan," *International Comparison of Privatization and Deregulation among the U.S.A., the U.K., and Japan, The Keizai Bunseki* (the Economic Analysis), No. 144, (Tokyo, Japan: Economic Research Institute, Economic Planning Agency), January 1996, pp. 83-103.

³²Furukawa, pp. 83-103.

³³Heizo Takenaka, *Contemporary Japanese Economy and Economic Policy* (Ann Arbor: University of Michigan Press, 1991), p. 101.

³⁴Roy Larke, *Japanese Retailing*, (London: Routledge Press, 1994), p. 35.

³⁵Ministry of International Trade and Industry, February, 1994, p. 40; *Euromoney*, February, 1994; *Tokyo Business*, January, 1995.

These regulations have tended to keep dwelling space in Japan small -- estimates of average house size range from one third to one half the size of the average American house.³⁶ Although Japanese consumers have access to almost any kind of consumer durables, the lack and cost of space within the home reduces the number of items a household can actually own. In spite of this, the Environmental Protection Agency estimated in 1992 that almost 100 percent of households owned color televisions, refrigerators, and washing machines, while nearly 80 percent owned cars. The Japanese people are aware of their difficult housing situation, and this is reflected in nearly every government report emphasizing efforts to improve "living comforts" and "pleasant conditions".³⁷

Financial regulations of housing loans have constrained housing demand. The government has controlled the amount of funds available for housing loans, the institutions that could provide mortgages, the length of repayment periods, and interest rates charged. The government deregulated parts of the financial system in the early 1980s, liberalizing interest rates and allowing banks to enter the mortgage loan business, in direct competition with the seven housing loan corporations (*jusen*) that were set up solely to provide loans to home buyers in the 1970s. In April 1990, as land prices rose, a ceiling on bank lending for real estate was imposed, but excluded the *jusen*. The *jusen* then began increasing the real estate lending significantly, with backing from banks and other financial institutions. With the collapse of the real estate market, the insolvent *jusen* are now holding ¥9.6 trillion of non-performing loans, or 74 percent of their total assets, greatly reducing enthusiasm to extend new loans or refinance old ones.³⁸

Taxes have placed an additional constraint on the efficient use of land in Japan. Taxes on farmland are considerably lower than other real estate -- agricultural land in Tokyo is reportedly taxed at 1/200th the rate charged to residential land -- and has encouraged agricultural holdings in urban areas. The share of land used for farming fell from 37.5 percent in 1960 to 34.7 percent in 1984, while the share used for housing rose from 3.7 percent to 7.8 percent during the same period.³⁹ Advocates of change in farming legislation point out that 60 percent of Japanese farmers work their land only part-time, while holding regular jobs with companies. They also argue that many of the large scale, efficient, and full-time farmers would survive land use deregulation, because prices and demand are consistently high for Japanese rice. Low taxes on tangible assets and high taxes on income from the sale of land have encouraged holding fixed assets such as land. Moreover, property owners -- Japan has a

³⁶ Takenaka, p.100, and Larke, p.35.

³⁷ Larke, pp. 35, 40.

³⁸ *The Nikkei Weekly*, November 6, 1995, p. 15 and January 29, 1996, p. 1; Takenaka, p. 110.

³⁹ Takenaka, p. 107.

very high proportion of owner-occupied homes (over 60 percent) -- have resisted any increase in fixed asset taxes.⁴⁰

In addition, government control of reported real estate prices has made the real value of land in Japan difficult to determine. Real estate values have been falling even without significant changes in government regulations as a result of the bursting of the financial bubble. Reported land prices -- "published land prices" based on National Land Agency surveys, and "standard land prices" based on surveys commissioned by prefecture governors - represented roughly 70-80 percent of market prices before the bubble. This rule of thumb is no longer reliable because officials in the National Land Agency have sought to maintain public confidence and minimize the seriousness of the price decline. Thus, "published" and "standard" prices reported are believed to be artificially high. According to some press reports, real market land prices are about one-fifth of their peak bubble value, or half of the pre-bubble (1983) value.⁴¹ Nonetheless, these values might be expected to fall further as regulations are removed. This drastic fall in price has most seriously affected commercial landowners, who bought land at its most inflated values, and are facing a continuing slump in demand for office space. Many are now hesitating to sell the land and take the loss that inevitably will occur, and others are holding on, in the hopes that land prices will rise again, in order to recover some of their investment.

Liberalizing land use could promote economic growth and raise the Japanese standard of living. Lifting regulations on construction and land use rules and changes in tax law could reduce the cost of real estate, and stimulate the demand for housing and the growth of related industries and space-development engineering industries. Moreover, easing financial regulations that limit the types of institutions providing housing loans would improve the availability of these types of loans. Housing demand could then become an important means of moving the economy out of its current recession, and remain an important factor in the longer run, as it is in the United States. More importantly, a fall in the relatively high cost of real estate, which has placed a major constraint on household budgets, could alter consumption and savings patterns. That is, lower housing costs and new financing rules would reduce the savings required to purchase homes, and raise the share of income available for consumption of other goods and services.

Retail and Distribution. Regulations of retail trade and distribution have until recently kept prices of goods high, especially for final consumers. With the liberalization of the Large Scale Retail Store Law in 1994 -- easing the opening of new retail outlets, allowing existing ones to offer longer hours, and increase their sales space -- Japan's retail structure has been undergoing changes. The recent recession is accelerating the pace of change. The latest Ministry of International Trade and Industry survey of retailers in April 1995, shows that the

⁴⁰Takenaka, p. 109.

⁴¹Yashshi Kudo, "No Bottom in Sight," *Tokyo Business*, November 1995.

number of outlets dropped 6.6 percent in 1994 to 1.5 million. The largest decline was in small stores employing 1-2 full-time employees, at 9.6 percent, while the number of retail stores employing ten or more people rose 18.1 percent.⁴² Notably between 1982-1991, the number of small stores declined by 130,000. During this time, the largest increase in merchandise sectors was in the women's and children's apparel sector, which increased by almost 43 percent, or by some 30,000 outlets. There was also a significant increase in discount stores and direct telemarketing (e.g., L.L. Bean) that were virtually non-existent before liberalization. The largest decrease was in the food sector which has the most small stores. Over 90 percent of dried foods, bakery and rice and cereal retailers employ fewer than five people.⁴³

This restructuring has been accompanied by rising price competition among sellers, placing more and more pressure on Japanese retailers as well as manufacturers to reduce prices. The high yen, too, has added to these pressures on domestic producers as lower priced imports increasingly compete with domestic goods. Price-cutting by retailers has become a way of life in order to survive. One way to cut costs is to reduce retail administrative costs -- representing over 20 percent of revenues in Japan, compared to 12 to 13 percent in the United States -- and another is to introduce private brands. The manufacturers above them are cutting distribution costs, reducing the levels of wholesale agents from three to one in many cases. Manufacturers used to encourage the complex distribution system in order to maintain control over distribution channels and keep a distance between themselves and retailers. This included relying on small "mom-and-pop" stores to push their products, lending them money, and treating them as part of the (*keiretsu*) family.⁴⁴ Due to the increasing power of large retail companies, the practical aspects of manufacturing control have been reduced. The only remaining role of multiple layers is to provide a wide-ranging distribution network, and to supply the thousands of surviving small retailers. As small retailers decline, so will the complex wholesale system.⁴⁵

Financial Deregulation. Japan can remove regulations that have hindered the development of the full-fledged capital market needed to finance Japanese private investment. Financial deregulation encourages entrepreneurship on the periphery, rationalizes asset allocation, guards against the possibility of a new "bubble" economy, and is a more appropriate way to manage societal risk. The changes currently underway and/or planned in the Japanese financial system are likely to have a positive impact on the near-to-mid-term growth path of the economy and on the structure of corporations. Future economic growth depends in part on how the Japanese government resolves its current banking problems and

⁴²*The Nikkei Weekly*, June 5, 1995, p. 3.

⁴³Larke, p. 69.

⁴⁴*Far Eastern Economic Review*, May 5, 1994.

⁴⁵Larke, pp. 78-83.

proceeds in its deregulation of financial markets. As it has liberalized its financial markets, *keiretsu* banks are becoming a less dominant source of funds to major industries, and Japanese corporations are seeking finance elsewhere..

In the past, corporate reliance on banks for financing enhanced the Japanese government's control over industry through interest-rate controls, lending-limits, and window guidance. It helped to carry out the government's industrial policies which directed long-term loans at below-market rates to favored industries and companies. The success of Japan's postal saving system has been an important means of channeling financial resources from small savers to target industries. However, government regulations have made listing stocks on the Tokyo Stock Exchange a time-consuming, lengthy, and costly process. In addition, restrictive government regulations and Japan's unique main bank and *keiretsu* system have hindered the development of a strong bond market. Currently, the Japanese bond market is dominated by government issues, with private bonds accounting for 13.5 percent of the total in 1993.⁴⁶ Equity capital and bonds accounted for only 27.1 percent of external funds for corporations in 1994. Since the removal of restrictions on international capital transactions, Japanese corporations have increasingly turned to European capital markets for funds. Nevertheless, borrowing, primarily from banks, remains the most dominant form of external financing, accounting for 72.9 percent of the total in 1994.⁴⁷ In contrast, U.S. firms, operating in a less regulated financial system, are less dependent on banks, and influenced by the business cycle. In 1993, a period of gradual recovery in the United States, U.S. firms' borrowing from banks was a negative \$6 billion, as companies repaid loans, and in 1995, borrowing from banks was 34 percent of the total.

The Japanese government began liberalizing its financial markets in the late 1970s, following the 1973-74 oil shock, and increased the pace in the 1980s. For example, the Foreign Exchange and Foreign Trade Control Law of 1980 liberalized international capital flows, and the Financial System Reform Act of 1993 allowed banks to establish subsidiaries to underwrite and broker fixed-income securities, and it has contributed to the development of Japanese corporate bond markets.

As corporations have been under increasing pressure to reduce costs due to sluggish economic growth, the structure of Japanese corporate finance has been changing. So far, the change in the structure of Japanese corporate finance has been extremely gradual and subtle. Firms are diversifying corporate finance and reducing their dependence on banks. Although bank loans remain the most important source of external funds, firms have been increasingly turning to equities and other securities, as well as to borrowing from abroad, especially during the bubble years. In 1994, bank borrowing as a percentage of total external financing fell to

⁴⁶Japan Securities Research Institute, *Securities Market in Japan*, 1996, p. 5.

⁴⁷Ministry of Finance, *Zaisei Kinyu Tokei Gepo* (Financial Statistics Monthly), No. 520, August, 1995.

72.9 percent from 84.4 percent in 1975,⁴⁸ while the share of equity and other securities offerings rose to 27.1 percent from 15.6 percent. This shift is reflected in the debt-to-equity ratios of Japanese companies. Before the mid-1980s, most Japanese corporations' debt-to-equity ratios were significantly higher than their U.S. counterparts. Since 1986, the debt-equity ratios of Japanese companies have been consistently lower than those of U.S. firms.⁴⁹ Japanese firms have gradually shifted from bank borrowing (external) to internal sources of funds and over the last few decades, to equity offerings, domestic and overseas. The share of external funds in total corporate financing fell from 63.1 percent in 1975 to 13.9 percent in 1994.⁵⁰

Corporate Governance and Restructuring

Deregulation would do much to improve the environment for productivity growth. As deregulation proceeds, a change in the nature of competition is expected in a number of industries. The prolonged 1990s recession, the high yen, and rapid technological changes are also placing pressures on the traditional Japanese corporate structure. Japan's private sector needs to take actions -- including formation of new businesses, investments, innovations, and organizational changes -- that will result in actual gains in productivity. Its corporate sector is saddled by traditional relationships, high levels of white collar employment and other practices such as lifetime employment, all of which need to be changed to promote competitiveness and profitability.

An important aspect of deregulation and restructuring is the need to open up the Japanese economy. U.S. and European companies increasingly view "openness" as an asset -- one which makes ventures and businesses more competitive and profitable. For U.S. firms, the relative openness of the U.S. economy has been key to their success. The openness of the U.S. economy has, on the one hand, forced U.S. firms in all sectors, not just exporters, to constantly improve their efficiency in order to compete effectively in world markets, and on the other hand, has enhanced their access to resources -- technology, capital, labor skills, and location -- from abroad, helping to increase their productivity and reduce costs. In addition, technological change is forcing reorganization of the U.S. economy and U.S. corporations. Businesses are responding to these changes in part by restructuring their operations to increase the pace of sharing and processing of information, facilitating financing of their ventures, reducing costs, and raising productivity. Computer and telecommunications equipment technologies have been key to this process.

⁴⁸Ministry of Finance, No. 509, September 1994.

⁴⁹Jeffrey A. Frankel, "Japanese Finance in the 1980s: A Survey," in *Trade with Japan: Has the Door Opened Wider?*, edited by Paul Krugman (Chicago, The University of Chicago Press, 1991), p. 232, Table 8.1.

⁵⁰Japan Securities Research Institute, p. 2; Ministry of Finance, No. 520, August, 1995..

Two examples highlight the importance of these factors. First, the absence of barriers to entry in the U.S. economy has kept IBM from transferring its dominance in the mainframe computer industry to the personal computer (PC) market, which has been rapidly growing since the introduction of the microprocessor and operating software technologies. The PC market has been continuously growing during the 1990s, with sales two-thirds to three-quarters larger than mainframe computer sales, while mainframe sales have been falling since 1991.⁵¹ This change has not been easy for IBM, as it was forced to reorganize its business structure and lay off thousands of workers world wide -- 63,000 between 1993 and 1996 -- eliminating its "life-time employment" policies. Japanese computer makers are likely to face even greater difficulties. Japanese giants -- Fujitsu, Hitachi, NEC, Toshiba -- have been competing to build complete network architectures, connecting mainframes to personal computers (PCs). Each has sought to work with individual systems integrators and to maintain dedicated software systems that could not be used by others. Their failure to agree on a standard PC architecture has stunted the growth of the use PCS and development of local area networks in Japan. In addition, it has opened the door for major U.S. producers -- Intel, Microsoft, IBM, Motorola. The openness of and greater competition in the U.S. market has encouraged the standardization of operating systems across different PCS, easing the widespread adoption and sales of PCS in the United States.

Second, deregulation was important in AT&T's decision in January 1996 to divide the company into three separate entities: a telecommunications service firm, a telephone equipment manufacturer, and a computer manufacturer. Liberalization of the telecommunications market in the United States is in part the result of rapidly changing technologies which have changed the competitive environment. AT&T is competing with many new firms to provide telecommunications services, and is in the process of eliminating 40,000 jobs, mostly management positions. Japan, on the other hand, has been much slower in deregulating its market, resulting in relatively high service costs. As a consequence, it appears to have relinquished market share to other countries, such as Singapore -- now a major international media hub -- in providing international telecommunications services.

Press reports indicate that more and more Japanese corporate executives are beginning to recognize the importance of internationalization, technological change, and the need to:

- Rationalize white collar employment;
- Downsize labor-intensive production activities and move more plants overseas; and,
- Increase management adaptability and flexibility to technological forces of change.

Japanese corporations, especially those in unregulated industries and those that compete in world markets, have taken steps in these directions, especially in recent years as

⁵¹U.S. Department of Commerce computer industry analyst, February 1996.

the yen has continued to strengthen and profit margins have been squeezed. Some have altered their relationship with their main banks and their financial structure. As the Japanese capital market develops, large corporations are expected to depend less on main banks which are turning more and more to small- and medium-sized firms for business.⁵² Similarly, the *keiretsu* relations are changing. As noted above, the distribution linkages have been undergoing shifts. For vertical *keiretsus*, too, the ties are loosening, especially as corporations move facilities abroad. In fact, many firms have established new alliances outside their traditional *keiretsu* group, not only to get parts and supplies more quickly and cheaply but also to access new and/or complementary technologies.⁵³ Another sign of change is the advent of management buy outs. Though management buyouts are still unusual, Japanese companies are slowly overcoming strong cultural traditions, such as breaking *keiretsu* ties and leaving the security of a big company, to gain consensus within the company to dispose of the subsidiary. A combination of the bursting of the financial bubble, the ensuing recession, and deregulation has been forcing Japanese firms to focus on their main or core businesses and reduce their diversified holdings acquired during the boom period.⁵⁴

Employment practices are also gradually changing. Japanese corporations have attempted lowering costs and staff levels by reducing new hiring, cutting back bonuses and raises, and providing incentives for early retirement, as well as promoting a younger person over his seniors.⁵⁵ For example, Fujitsu has begun to shift its product lines from mainframe computers to smaller computers and PCs, and has begun moving workers from some plants to other facilities in Japan and abroad.⁵⁶ Others, such as Nissan and Nippon Steel, have begun to close plants or downsize their workforce, especially white collar workers, through attrition and reduced new hires.⁵⁷ Kao Corporation has flattened its organization, reduced its administrative staff, and given its sales people more autonomy in managing their sales areas.⁵⁸ Sharp Corporation has restructured its company, emphasizing R&D and customer training, reducing labor-intensive assembly processes, and moving facilities overseas.⁵⁹

⁵²Hugh Patrick, "Crumbling or Transforming? Japan's Economic Success and its Postwar Economic Institutions," Center on Japanese Economy and Business, Columbia Business School, Working Paper No. 98, September 1995.

⁵³Patrick, pp. 28-30.

⁵⁴"Japan's New Iconoclast," *Financial Times*, July 1, 1996.

⁵⁵"In Japan, a Bow to Competitive Realities, Companies Confront Entrenched Culture in Trying to Link Performance, Pay and Promotions," *The Washington Post*, November 26, 1995, pp. H1, H6.

⁵⁶"Japan's Largest Computer Maker is Restructuring," *New York Times*, June 5, 1995.

⁵⁷Jay N. Woodworth, "Restructuring the Japanese Automakers," *Business Economics*, October 1994, pp. 11-17; *Wall Street Journal*, October 3, 1994.

⁵⁸John Boyd, "Reengineering, Japanese Style," *Information week*, December 5, 1994, pp. 39-46.

⁵⁹Haruo Tsuji, "Displays of Creativity," *Japan Update*, December 1994, pp. 2-3.

Lifetime employment, however, is not expected to disappear, according to some experts, because firms do not want to damage reputations and create difficulties in recruiting, and in the longer term, future labor shortages are predicted by Japan's demographics.⁶⁰ By contrast, corporations in the regulated part of the economy have taken few steps to restructure.

⁶⁰Hugh Patrick, pp. 22-23.

OUTLOOK

Unless Japan seriously undertakes trade liberalization, deregulation and corporate restructuring, it can expect to face reduced economic growth and limited flexibility for change in the longer term. Global competitive pressures are becoming increasingly powerful, and the long-term strengthening of the yen has reduced, and will continue to reduce, the competitiveness of Japanese exports. Japanese corporations, too, must earn at least market rates of return or close operations. Threats to their economic survival may force Japanese companies to break long-standing traditions and undertake painful steps, including possibly layoffs. To the extent that deregulation opens the Japanese economy to external competition, U.S. firms and industry would be in a better position to enter and compete in Japanese markets.

Corporate restructuring in Japan still has a long way to go. Japanese employment has fluctuated less than U.S. employment because Japanese companies have been reluctant to lay off workers in downturns. Japan's system of bonuses, based on corporate profits, provides its corporations more flexibility in wages paid to workers than U.S. firms. Moreover, many American economists say Japanese corporations are constrained by social and cultural traditions from taking the major and immediate restructuring steps, which have become commonplace in the United States. Until now, the bonus system and social pressures have helped to make layoffs in the major corporations a rarity.

On the other hand, although corporations are taking a gradual approach in restructuring, changes in new hiring and other employment practices could boost Japanese productivity and competitiveness. The sharp cutbacks in new hires, particularly white-collar workers, have led many college graduates to seek employment in small- and medium-sized companies (with less than 1,000 workers). These college graduates are bringing new ideas and talent to these smaller firms that comprise about two-thirds of the Japanese economy, and are injecting an entrepreneurial spirit that has been lacking in Japan.⁶¹

At the same time, global competitive pressures are becoming increasingly powerful, while the long-term strengthening of the yen continues to reduce the competitiveness of Japanese exporters. While Japanese corporations might be able to survive for many years earning below market rates of return, eventually their capital will shift to alternative uses -- including uses in foreign economies. In the long-run, companies that cannot earn at least market rates of return will be forced to close. For many Japanese corporations, threats to their economic survival may overcome their reluctance to break with long-standing traditions and force them to undertake painful steps, including substantial layoffs.

⁶¹See "Hiring Slump in Japan Means College Grads Finally Try Small Firms," *Wall Street Journal*, April 22, 1996.

Japan has eliminated a number of regulations in the last few years but so far the effort has been relatively modest. The government, however, has committed itself to accelerate deregulation, calling for a five-year deregulation plan by March 1995 and issuing in April 1995 a program to eliminate 500 regulations over the next five years. Most commentators have said that the plan is too modest and that more far-reaching change is required. In July 1996, the Economic Planning Agency (EPA) issued a radical deregulation plan, calling for simultaneous lifting of government control in six sectors: computers and telecommunications; distribution; finance; housing and property development; employment; medical care; and welfare. In public statements, Shusei Tanaka, Director General of the EPA, has said that the current recovery in the Japanese economy provides the opportunity to succeed in undertaking economic reforms -- one that did not exist during the slowdown.⁶²

Deregulation is likely to continue meeting major resistance from a variety of sources. Many of the businesses that currently are protected by government regulations and the bureaucracies responsible for enforcing regulations and implementing new ones are against liberalization. Some government officials and business leaders who favor deregulation are trying to find ways to generate more interest in the general public as a way to offset the resistance of special interest groups, as well as to develop an incentive structure that promotes competition in regulated industries and limits unnecessary regulatory decisions.

⁶²See "Top economist tries to overturn decades of Tokyo tradition," *Financial Times*, July 24, 1996.